Complete Summary

GUIDELINE TITLE

SAGES guideline for laparoscopic appendectomy.

BIBLIOGRAPHIC SOURCE(S)

Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). SAGES guideline for laparoscopic appendectomy. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2009 Apr. 9 p. [31 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Appendicitis (simple and complicated)

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Gastroenterology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide recommendations to surgeons for the laparoscopic management of patients with both simple and complicated appendicitis

TARGET POPULATION

Adult and pediatric patients with simpleÂ or complicated appendicitis, including women of childbearing age, pregnant women, the elderly, and the obese

INTERVENTIONS AND PRACTICES CONSIDERED

1. Laparoscopic appendectomy
2. Technical approaches
    - Positioning
    - Trochar placement
    - Appendiceal retraction

MAJOR OUTCOMES CONSIDERED

- Morbidity and mortality associated with laparoscopic appendectomy
- Length of operation
- Length of hospital stay
- Postoperative pain
- Return to work
- Conversion rate (to open appendectomy)
- Cost
- Diagnostic accuracy
- Wound infection rate
- Complication rate

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched from 1950 to week 1 Jul 2007:

OvidSP was used as the search engine. This includes:

- Medline (1950 - present)
- Evidence Based Medicine- (Cochrane Database of Systematic Reviews [DSR], American College of Physicians [ACP] Journal Club, Database of Abstracts of

Reviews of Effects [DARE], Cochrane Central Register of Controlled Trials [CCTR], Cochrane Methodology Register [CMR], Health Technology Assessment [HTA], and National Health Service Economic Evaluation Database [NHSEED])
- Global Health (1973-)
- Ovid Healthstar (1966-)
- Ovid full-text Journals

Specific search terms used:

Laparoscopy and appendectomy were used, truncated as laparosc$ and append$

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Evidence from properly conducted randomized, controlled trials.

Level II: Evidence from controlled trials without randomization; cohort or case-control studies; multiple time series; dramatic uncontrolled experiments.

Level III: Descriptive case series; opinions of expert panels.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grade of Recommendations

Grade A: Based on high level (Level I or II), well-performed studies with uniform interpretation and conclusions by the expert panels.

Grade B: Based on high level, well-performed studies with varying interpretations and conclusions by the expert panels.

Grade C: Based on lower level evidence (Level II or less) with inconsistent findings and/or varying interpretations or conclusions by the expert panels.

COST ANALYSIS

Initial studies of laparoscopic appendectomy suggested higher costs because of the expense for equipment and the longer operative times. As surgeons and centers have gained experience, it is no longer clear that there is a higher cost with laparoscopy. The small differences in operative costs are offset by gains attributable to shorter hospital stays and quicker returns to work. These factors are not entirely addressed by current studies.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This guideline was reviewed and approved by the Board of Governors of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), April 2009.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions of the levels of evidence (**I-III**) and grades of recommendations (**A-C**) are presented at the end of the "Major Recommendations" field.

Utilization of Laparoscopy for Appendicitis

The indications for appendectomy are identical whether performed laparoscopically or open (**Level III, Grade A**).

Patient Selection

Uncomplicated Appendicitis

Laparoscopic appendectomy is a safe and effective method for treatment uncomplicated appendicitis and may be used as an alternative to standard open appendectomy (**Level I, Grade A**).

Perforated Appendicitis

Laparoscopic appendectomy may be performed safely in patients with perforated appendicitis (**Level II, Grade B**) and is possibly the preferred approach (**Level III, Grade C**).

Women of Childbearing Age

Laparoscopic approach for fertile women with presumed appendicitis should be the preferred method of treatment (**Level I, Grade A**).

Elderly Patients

Laparoscopic approach may be the preferred method of treatment (**Level II, Grade B**).

Pediatric Patients

Laparoscopic appendectomy may be safely performed in pediatric patients. For specific recommendations, reference may be made to International Pediatric Endosurgery Group (IPEG) guidelines.

Pregnancy

Laparoscopic appendectomy may be performed safely in pregnant patients with suspicion of appendicitis (**Level II, Grade B**).

Obesity

Laparoscopic appendectomy is safe and effective in obese patients (**Level II, Grade B**) and may be the preferred approach (**Level III, Grade C**).

Special Considerations

Treatment of Normal Appendix on Laparoscopy for Appendicitis

If no other pathology is identified, the decision to remove the appendix should be considered but based on the individual clinical scenario (**Level III, Grade A**).

Technical Aspects

Developing a consistent operative method decreases costs, operating room (OR) time, and complications (**Level II, Grade B**).

Definitions:

Levels of Evidence

Level I: Evidence from properly conducted randomized, controlled trials.

Level II: Evidence from controlled trials without randomization; cohort or case-control studies; multiple time series; dramatic uncontrolled experiments.

Level III: Descriptive case series; opinions of expert panels.

Grade of Recommendations

Grade A: Based on high level (Level I or II), well-performed studies with uniform interpretation and conclusions by the expert panels.

Grade B: Based on high level, well-performed studies with varying interpretations and conclusions by the expert panels.

Grade C: Based on lower level evidence (Level II or less) with inconsistent findings and/or varying interpretations or conclusions by the expert panels.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is specifically stated for most recommendations (see 'Major Recommendations' field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate use of laparoscopic appendectomy in patients with both simple and complicated appendicitis

POTENTIAL HARMS

Surgical complications including:

- Postoperative pain
- Wound infection
- Deep pelvic abscess

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Guidelines for clinical practice are intended to indicate preferable approaches to medical problems as established by experts in the field. These recommendations will be based on existing data or a consensus of expert opinion when little or no data are available. Guidelines are applicable to all physicians who address the clinical problem(s) without regard to specialty training or interests, and are intended to indicate the preferable, but not necessarily the only acceptable approaches. Guidelines are intended to be flexible. Given the wide range of specifics in any health care problem, the surgeon must always choose the course best suited to the individual patient and the variables in existence at the moment of decision.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2009 Apr

GUIDELINE DEVELOPER(S)

Society of American Gastrointestinal and Endoscopic Surgeons - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of American Gastrointestinal Endoscopic Surgeons (SAGES)

GUIDELINE COMMITTEE

SAGES Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Members of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) disclose potential conflicts of interest and pertinent financial relationships prior to serving as faculty for SAGES-sponsored educational events, delivering presentations at scientific meetings, etc. Additionally, members of SAGES Committees disclose their potential conflicts of interest and pertinent financial relationships annually as a condition of committee membership.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Web site.

Print copies: Available from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), 11300 W. Olympic Blvd., Suite 600, Los Angeles, CA 90064; www.sages.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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